

CV Beam

# BRIEF PASSENGER CAR DATA

—1957—



ETHYL CORPORATION



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1957

## ETHYL CORPORATION

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## NOTICE

The specifications and adjustments contained in this booklet have been compiled by the Research Laboratories of the Ethyl Corporation from information supplied by manufacturers of motor cars, ignition apparatus, spark plugs, etc. None of this information represents the results of tests at the Research Laboratories of the Ethyl Corporation.

This information covers the essential characteristics, in ready reference form, of the 1957 passenger car models. It is correct at date of publication, but changes may be made from time to time by motor car manufacturers.

Data on horsepower, torque, bmep, etc., are that given by the manufacturer. Methods and technique of testing differ in various engineering departments, so these data are frequently not comparable for different makes of cars.

## GENERAL NOTES

### Spark Plugs

The spark plug installed and recommended by the factory is shown first in the specifications with the corresponding AC, Auto-Lite or Champion spark plug shown as an alternate. These plugs are designed for average driving conditions. For heavy duty or high speed driving, it may be necessary to use a colder plug in order to obtain satisfactory spark plug life. The necessity for a colder plug is indicated by rapid electrode wear and, in extreme cases, splitting and cracking away of the insulator.

It is sometimes necessary to change to a plug which is hotter than the factory equipment plug for very light service, especially in metropolitan areas. If an engine is not pumping oil and the ignition system is in good condition but the spark plug consistently fouls — the need for a hotter plug is indicated. Caution should be exercised in using hotter than standard plugs as they are likely to cause preignition if the vehicle is subjected to high speed driving.

Periodic cleaning of spark plugs by means of an efficient spark plug cleaner is often advantageous.

Spark plug gaps should be set and maintained at factory setting. Pitted breaker points should be cleaned and, if badly pitted, replaced. Incorrectly set breaker points will affect ignition timing and ignition output.

### Ignition Timing

Ignition timing is given in crankshaft degrees and is factory setting. Almost all distributors are provided with some type of adjustment enabling the ignition timing to be reset without disturbing the calibration of the distributor advance mechanism. Retarded ignition timing will eliminate or reduce detonation but will result in decreased performance and fuel economy. Also, in most cases, an ignition setting slightly in advance of the factory setting will result in additional performance and economy, although such an ignition setting will require a fuel of higher antiknock value than the standard setting.

### Carburetors

Carburetors should not be adjusted or jets changed except by qualified mechanics. Correct fuel (or float) levels are extremely important to satisfactory performance and fuel economy — factory specifications should be strictly maintained.

### Valves

Valve tappet clearances are extremely important. Frequent checking of valve tappet clearances will add materially to the proper functioning and long life of valves.



# LIST OF ABBREVIATIONS

AC .....	AC Spark Plug Division, GMC
Adv .....	Advance
AL .....	The Electric Auto-Lite Company
AMA .....	Automobile Manufacturers Association
ATC .....	After Top Center
BTC .....	Before Top Center
Bmep .....	Brake mean effective pressure
C .....	Cold (valve adjustment)
Car .....	Carter (carburetors)
Centrif .....	Centrifugal
Champ .....	Champion Spark Plug Company
Clr .....	Clearance
CNS .....	Chrome Nickel Steel
DD .....	Downdraft
Deg .....	Degrees
DR .....	Delco-Remy Division, GMC
Eng .....	Engine
Eqpt .....	Equipment
Exh .....	Exhaust
H .....	Hot (valve adjustment)
HP .....	Horsepower
Hyd Lifters .....	Hydraulic Lifters
I .....	In-head (overhead valves)
Int .....	Intake
L .....	L-head
Max .....	Maximum
No. Cyl .....	Number of Cylinders
OD .....	Overdrive
Recm Press .....	Recommended Pressure (tires)
RP .....	Rochester Products (carburetors)
SD .....	Side Draft
Sil .....	Silchrome
Sgl .....	Single
Std .....	Standard
Strom .....	Stromberg Carburetor Company
TDC .....	Top Dead Center
Trans .....	Transmission
Vac .....	Vacuum

**SUMMARY OF CHARACTERISTICS**  
**1957 UNITED STATES PASSENGER CARS**  
**Specifications for Four-Door Sedans**

	1956	1957	Change
Number of Makes.....	19	19	....
Number of Models.....	50	47	-3

**ENGINE CHARACTERISTICS:**

Average Standard Compression Ratio.....	8.55	8.96	+0.41
Highest Standard Compression Ratio.....	10.0	10.0	....
Lowest Standard Compression Ratio.....	7.2	7.2	....
Average Displacement, Cubic Inches.....	296.7	309.9	+13.2
Average Maximum Brake Horsepower.....	206.8	236.7	+29.9
Average RPM at Maximum Horsepower.....	4402	4594	+192
Average Horsepower Per Cubic Inch.....	0.686	0.751	+0.065
Average Brake Mean Effective Pressure, PSI..	148.0	155.1	+7.1
Maximum Horsepower Per Cubic Inch.....	0.791	0.952	+0.161
Minimum Horsepower Per Cubic Inch.....	0.535	0.544	+0.009
Average Lb/HP—6 Passenger Sedan.....	19.07	16.8	-2.27

**Rated Horsepower With  
Standard Compression Ratio:**

	Number of Models		
Under 75 .....	1	1	0
75-99 .....	0	0	0
100-149 .....	10	6	-4
150-199 .....	8	6	-2
200-249 .....	17	8	-9
250-299 .....	14	17	+3
300-349 .....	0	9	+9

See Curve on Page 34

# BUICK

CAR MODEL	Special Series 40	Century Series 60	Super & Roadmaster Series 50 & 70
<b>ENGINE</b>			
No. Cyl-Head Type.....	V-8-I	V-8-I	V-8-I
Bore and Stroke (in).....	4.125 x 3.4	4.125 x 3.4	4.125 x 3.4
Displacement (cu in).....	364	364	364
AMA Horsepower.....	54.45	54.45	54.45
Max Horsepower @ rpm.....	250 @ 4400 (1)	300 @ 4600	300 @ 4600
Max Torque, lb-ft @ rpm.....	380 @ 2400 (1)	400 @ 3200	400 @ 3200
Max bmep, lb/sq in.....	157.4	165.7	165.7
Compression Ratio.....	9.5 (1)	10.0	10.0
<b>IGNITION</b>			
Spark Plug—Factory Eqpt.....	AC 44	AC 44	AC 44
Alternate .....		Champ J-8, AL AR 42	
Spark Plug Gap.....		.030" to .035"	
Firing Order .....		1-2-7-8-4-5-6-3	
Distributor—Make and Model...		Delco-Remy 1110870	
Breaker Gap .....		.0125" to .0175"	
Cam Angle .....	30°	30°	30°
Timing—Crankshaft Degrees ...	5° BTC	5° BTC	5° BTC
Adv Deg—Centrif—Vac .....	26-1/2—19-1/2	26-1/2—19-1/2	26-1/2—19-1/2
Adv Begins—Ends—Eng rpm....	625-3750	625-3750	625-3750
Battery—Volts, Terminal Ground	12, Negative	12, Negative	12, Negative
<b>VALVES</b>			
Size and Material .....	Int Exh	1.875", SAE 8645 1.437", S11 10, 2155N or 21-4NS	
Tappet Clr—Seat Angle.....	Int Exh	Hydraulic Lifters, 45° Hydraulic Lifters, 45°	
<b>CARBURETOR</b>			
Make, Model .....	Car WGD or Strom WW	Car AFB or RP 4GC	
Type .....	Dual DD	4 Barrel DD	
Float Level .....	(2)	(3)	(3)
Choke Control .....	Automatic	Automatic	Automatic
<b>TRANSMISSION AXLE RATIO</b>			
Conventional .....	Std. 3.58		
Overdrive .....			
Automatic .....	Opt. 3.07	Std. 3.07	Std. 3.07
Make Automatic (see page 30)	Dynaflow	Dynaflow	Dynaflow
<b>CAPACITY</b>			
Oil (Refill) .....	(qt) 5	5	5
Water (includes heater) .....	(qt) 18	18	18
Conventional Transmission.....	(pt) 2-1/2		
Auto. Transmission (Refill).....	(qt) 11	11	11
Rear Axle .....	(pt) 6	6	6
Gasoline .....	(gal) 20	20	20
<b>GENERAL DATA (Four-Door Sedan)</b>			
Wheelbase .....	(in) 122	122	127.5
Over-All Lgth Incl Bumpers.....	(in) 208.4	208.4	215.3
Shipping Weight .....	(lb) 4001	4156	4354 (4)
Tire Size—Recm Press.....	(lb) 7.10x15-24-24(5)	7.60x15-24-24	(6)

- (1) Hp, torque, bmep and comp. ratio for engines equipped with Dynaflow. For conventional transmission the comp. ratio is 8.0 and power figures are not available.
  - (2) Stromberg WW: 7/32" from top of float chamber without gasket to top of float. Carter WGD: 1/4" vertical distance between top of float and machined surface of casting.
  - (3) Rochester 4GC: 1-3/8" between bottom of float and bowl cover gasket with bowl cover inverted. Carter AFB: 7/32" clearance between top of outer end of float and air horn gasket.
  - (4) Roadmaster 4469.
  - (5) 7.60x15-24-24; optional.
  - (6) Super 7.60x15-24-24; Roadmaster 8.00x15-24-24.
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# CADILLAC

CAR MODEL	62	60S	75
<b>ENGINE</b>			
No. Cyl-Head Type.....	V-8-I	V-8-I	V-8-I
Bore and Stroke (in).....	4.00 x 3.625	4.00 x 3.625	4.00 x 3.625
Displacement (cu in).....	365	365	365
AMA Horsepower.....	51.2	51.2	51.2
Max Horsepower @ rpm.....	300 @ 4800 (1)	300 @ 4800	300 @ 4800
Max Torque, lb-ft @ rpm.....	400 @ 2800 (1)	400 @ 2800	400 @ 2800
Max bmep, lb/sq in.....	165.2	165.2	165.2
Compression Ratio.....	10.0	10.0	10.0
<b>IGNITION</b>			
Spark Plug—Factory Eqpt.....	AC 44	AC 44	AC 44
Alternate .....		AL AR 42, Champ J-8	J-8
Spark Plug Gap.....	.035"	.035"	.035"
Firing Order .....		1-8-4-3-6-5-7-2	
Distributor—Make and Model...		Delco-Remy 1110876	
Breaker Gap .....	.016"	.016"	.016"
Cam Angle .....	31° + 1-1/2°	31° + 1-1/2°	31° + 1-1/2°
Timing—Crankshaft Degrees ...	5° BTC	5° BTC	5° BTC
Adv Deg—Centrif—Vac .....	24-24	24-24	24-24
Adv Begins—Ends—Eng rpm....	500-4140	500-4140	500-4140
Battery—Volts, Terminal Ground	12, Negative	12, Negative	12, Negative
<b>VALVES</b>			
Size and Material .....	Int	1.875", SAE 8645 or SAE 3140	
	Exh	1.437", Sil X-10 or 2112N	
Tappet Ctr—Seat Angle.....	Int	Hydraulic Lifters, 45°	
	Exh	Hydraulic Lifters, 45°	
<b>CARBURETOR</b>			
Make, Model .....		Car AFB or RP 4GC	
Type .....		DD, 4 Barrel (2)	
Float Level .....		Car NA; RP 1-3/8" (3)	
Choke Control .....	Automatic	Automatic	Automatic
<b>TRANSMISSION AXLE RATIO</b>			
Conventional .....	Std. 3.07 (4)	Std. 3.07 (4)	Std. 3.36 (5)
Overdrive .....	Hydra-Matic	Hydra-Matic	Hydra-Matic
Automatic .....			
Make Automatic (see page 30)			
<b>CAPACITY</b>			
Oil (Refill) .....	5	5	5
Water (includes heater) .....	20.5	20.5	20.5
Conventional Transmission (pt)			
Auto. Transmission (Refill) (qt)	11	11	11
Rear Axle .....	5	5	5
Gasoline .....	20	20	20
<b>GENERAL DATA (Four-Door Sedan)</b>			
Wheelbase .....	129.5	133	149.75
Over-All Lgth Incl Bumpers. (in)	215.9 (6)	224.4	236.2
Shipping Weight .....	4595	4755	NA
Tire Size—Recm Press.....	8.00x15-24-24 (7)		8.20x15-28-28

(1) Q engine using two 4 barrel carburetors optional on Eldorado and standard on Brougham. 325 bhp @ 4800, 400 lb-ft @ 3300.

(2) Q engine uses 2 Carter WCFB carburetors.

(3) Carter: Distance between top of float and air horn gasket.

Rochester: Distance between bottom of float and bowl cover gasket.

(4) 3.36 ratio optional on 60 and 62 Series and standard on air conditioned cars and on all Q engine equipped cars.

(5) 3.77 ratio optional on all model 75 cars.

(6) Coupes and convertibles 220.9; Eldorado 222.1.

(7) All white sidewall tires are 8.20 x 15.

# CHEVROLET

CAR MODEL	Six	Turbo-Fire 265 V-8	Turbo-Fire 283 V-8
<b>ENGINE</b>			
No. Cyl-Head Type.....	6-I	V-8-I	V-8-I
Bore and Stroke (in).....	3-9/16x3-15/16	3-3/4 x 3	3-7/8 x 3
Displacement (cu in).....	235.5	265	283
AMA Horsepower.....	30.4	45.0	48.0
Max Horsepower @ rpm.....	140 @ 4200	162 @ 4400	185 @ 4600 (1)
Max Torque, lb-ft @ rpm.....	210 @ 2400	257 @ 2400	275 @ 2400 (1)
Max bmep, lb/sq in.....	134.5	146.2	146.5
Compression Ratio.....	8.0	8.0	8.5 (1)
<b>IGNITION</b>			
Spark Plug—Factory Eqpt.....	AC 44	AC 44	AC 44
Alternate .....		AL AR 52, Champ J-8	
Spark Plug Gap.....	.035"	.035"	.035"
Firing Order.....	1-5-3-6-2-4		1-8-4-3-6-5-7-2
Distributor—Make and Model...	DR 1112403		DR 1110874
Breaker Gap .....	.016"	.016"	.016"
Cam Angle .....	28° to 35°	28° to 32°	28° to 32°
Timing—Crankshaft Degrees ...	TDC	4° BTC	4° BTC
Adv Deg—Centrif—Vac .....	26-15	32-22	32-22
Adv Begins—Ends—Eng rpm....	600-3500	600-3600	600-3600
Battery—Volts, Terminal Ground	12, Negative	12, Negative	12, Negative
<b>VALVES</b>			
Size and Material .....	Int 1.875", 8645 Exh 1.50", MXCR	1.72", 8645 1.50", MXCR	1.72", 8645 1.50", MXCR
Tappet Ctr—Seat Angle.....	Int Hyd. Lifters, 30° Exh Hyd. Lifters, 45°	Hyd. Lifters, 45°	Hyd. Lifters, 45°
<b>CARBURETOR</b>			
Make, Model .....	RP 7009657	RP 7010647	RP 7010648
Type .....	Sgl DD	Dual DD	Dual DD
Float Level .....	1-9/32" (2)	1-1/4" (2)	1-1/4" (2)
Choke Control .....	Automatic	Automatic	Automatic
<b>TRANSMISSION AXLE RATIO</b>			
Conventional .....	Std. 3.55	Std. 3.55	Std. 3.55
Overdrive .....	Opt. 4.11	Opt. 4.11	Opt. 4.11
Automatic .....	Opt. 3.36		Opt. 3.36
Make Automatic (see page 30)	Powerglide	None	Powerglide or Turboglide
<b>CAPACITY</b>			
Oil (Refill) .....	(qt) 5	4	4
Water (includes heater) ....	(qt) 17	17	17
Conventional Transmission.....	(pt) 2 (3)	2 (3)	2 (3)
Auto. Transmission (Refill)....	(qt) 5 Powerglide		3-1/2 Turboglide
Rear Axle .....	(pt) 4	4	4
Gasoline .....	(gal) 16	16	16
<b>GENERAL DATA (Four-Door Sedan)</b>			
Wheelbase .....	(in) 115	115	115
Over-All Lgth Incl Bumpers.....	(in) 200.0	200.0	200.0
Shipping Weight .....	(lb) 3275	3273	3270 (4)
Tire Size—Recm Press.....	(lb) 7.50x14-22-22	7.50x14-22-22	7.50x14-22-22
(1) BHP @ RPM	Torque @ RPM	CR	Carburetor
185 @ 4600	275 @ 2400	8.5	2 Barrel
220 @ 4800	300 @ 3000	9.5	4 Barrel
245 @ 5000	300 @ 3800	9.5	2-4 Barrel
250 @ 5000	305 @ 3800	9.5	Fuel Injection
270 @ 6000	285 @ 4200	9.5	2-4 Barrel
283 @ 6200	290 @ 4400	10.5	Fuel Injection
(2) Distance between bottom of float and bowl cover gasket.			
(3) One pint additional with overdrive.			
(4) Weight with Turboglide, with Powerglide 3399.			

# CHRYSLER

CAR MODEL	Windsor	Saratoga	New Yorker
ENGINE			
No. Cyl-Head Type.....	V-8-I	V-8-I	V-8-I
Bore and Stroke (in).....	3.94 x 3.63	3.94 x 3.63	4.0 x 3.9
Displacement (cu in).....	354	354	392
AMA Horsepower.....	49.7	49.7	51.2
Max Horsepower @ rpm.....	285 @ 4600 (1)	295 @ 4600	325 @ 4600 (2)
Max Torque, lb-ft @ rpm.....	365 @ 2400 (1)	390 @ 2800	430 @ 2800 (2)
Max bmep, lb/sq in.....	155.5	166.1	165.4
Compression Ratio.....	9.25	9.25	9.25 (2)
IGNITION			
Spark Plug—Factory Eqpt.....	AL AR-42	AL AR-42	AL AGR-42
Alternate.....	Champ	XJ 12Y	Champ XN 12Y, AC R44XLS
Spark Plug Gap.....	.035"	.035"	.035"
Firing Order.....		1-8-4-3-6-5-7-2	
Distributor—Make and Model...	AL IBP-4002-A	AL IBP-4002-A	AL IBK-4304
Breaker Gap.....	.015" to .018"	.015" to .018"	.015" to .018"
Cam Angle.....	29° to 32°	29° to 32°	29° to 32° per breaker
Timing—Crankshaft Degrees ...	6° BTC	6° BTC	6° BTC
Adv Deg—Centrif—Vac.....	26-21	26-21	20-22
Adv Begins—Ends—Eng rpm....	800-4100	800-4100	700-4500
Battery—Volts, Terminal Ground	12, Negative	12, Negative	12, Negative
VALVES			
Size and Material.....Int	1.94", Sil F	1.94", Sil F	2.00", Sil F
Exh	1.50", 21-4N	1.50", 21-4N	1.75", 21-4N
Tappet Ctr—Seat Angle.....Int		Hydraulic Lifters, 45°	45°
Exh		Hydraulic Lifters, 45°	
CARBURETOR			
Make, Model.....	Car BBD-2527S	Car WCFB-2589S	Car WCFB-2590S
Type.....	Dual DD	DD 4 Barrel	DD 4 Barrel
Float Level.....	9/32" (3)	Pri 1/8"; Sec 1/4" (4)	
Choke Control.....	Automatic	Automatic	Automatic
TRANSMISSION AXLE RATIO			
Conventional.....	Std. 3.73		
Overdrive.....			
Automatic.....	Opt. 3.18	Std. 3.18	Std. 3.18 (5)
Make Automatic (see page 30)	TorqueFlite	TorqueFlite	TorqueFlite
CAPACITY			
Oil (Refill).....(qt)	5	5	5
Water (includes heater) ....(qt)	22	22	25
Conventional Transmission.....(pt)	2-3/4		
Auto. Transmission (Refill).....(qt)	9	9	10-1/2
Rear Axle.....(pt)	3-1/2	3-1/2	3-1/2
Gasoline.....(gal)	23	23	23
GENERAL DATA (Four-Door Sedan)			
Wheelbase.....(in)	126.0	126.0	126.0
Over-All Lgth Incl Bumpers.....(in)	219.2	219.2	219.2
Shipping Weight.....(lb)	3995	4165	4315
Tire Size—Recm Press.....(lb)	8.50x14-22-22	8.50x14-22-22	9.00x14-22-22

- (1) Power package engine as used in Saratoga optional.
- (2) C-300 model uses special engine with two 4 barrel carburetors. Bhp 375 @ 5200, 420 lb-ft @ 4000 rpm. With optional 10.0 comp. ratio 390 bhp @ 5400 rpm, 430 lb-ft @ 4200 rpm.
- (3) From top of float chamber to top of float.
- (4) Between machined surface of bowl cover and nearest point on float.
- (5) 2.92 standard in flat areas of country except on air conditioned cars.

## CONTINENTAL

CAR MODEL	Mark II
<b>ENGINE</b>	
No. Cyl-Head Type.....	V-8-I
Bore and Stroke (in).....	4.00 x 3.66
Displacement (cu in).....	368
AMA Horsepower.....	51.2
Max Horsepower @ rpm.....	(1)
Max Torque, lb-ft @ rpm.....	(1)
Max bmep, lb/sq in.....	(1)
Compression Ratio.....	10.0
<b>IGNITION</b>	
Spark Plug—Factory Eqpt.....	Champ 860
Alternate .....	AC 84T, AL BRF 42
Spark Plug Gap.....	.032" to .036"
Firing Order .....	1-5-4-8-6-3-7-2
Distributor—Make and Model...	Holley PEK 12127 C
Breaker Gap .....	.014" to .016"
Cam Angle .....	26° to 28.5°
Timing—Crankshaft Degrees ...	5° BTC
Adv Deg—Centrif—Vac .....	24-3/4-16
Adv Begins—Ends—Eng rpm....	650-4000
Battery—Volts, Terminal Ground	12, Negative
<b>VALVES</b>	
Size and Material .....	Int 2.00", Stellite #1
Exh .....	1.63", Ford Cast Austenitic
Tappet Ctr—Seat Angle.....	Int Hydraulic Lifters, 45°
Exh .....	Hydraulic Lifters, 45°
<b>CARBURETOR</b>	
Make, Model .....	Car WCFB
Type .....	DD 4 Barrel
Float Level .....	Primary 1/16", Secondary 3/16" (2)
Choke Control .....	Automatic
<b>TRANSMISSION AXLE RATIO</b>	
Conventional .....	Std. 3.07
Overdrive .....	Turbo-Drive
Automatic .....	
Make Automatic (see page 30)	
<b>CAPACITY</b>	
Oil (Refill) .....	(qt) 5
Water (includes heater) ....	(qt) 25
Conventional Transmission.....	(pt) 10
Auto. Transmission (Refill)....	(qt) 4
Rear Axle .....	(gal) 25
Gasoline .....	
<b>GENERAL DATA (Four-Door Sedan)</b>	
Wheelbase .....	(in) 126
Over-All Lgth Incl Bumpers.....	(in) 218.4
Shipping Weight .....	(lb) 4800
Tire Size—Recm Press.....	(lb) 8.00x15-26-24 (3)

(1) Engine output specifications not released.

(2) Distance between float and machined surface of bowl cover casting with bowl cover assembly inverted.

(3) 8.20x15 standard on air conditioned cars.



# DE SOTO

CAR MODEL	Firesweep S-27	Firedome S-25	Fireflite S-26
ENGINE			
No. Cyl-Head Type.....	V-8-I	V-8-I	V-8-I
Bore and Stroke (in).....	3.69 x 3.80	3.78 x 3.80	3.78 x 3.80
Displacement (cu in).....	325	341	341
AMA Horsepower.....	42.2	45.7	45.7
Max Horsepower @ rpm.....	245 @ 4400 (1)	270 @ 4600	295 @ 4600 (2)
Max Torque, lb-ft @ rpm.....	320 @ 2400 (1)	350 @ 2400	375 @ 2800 (2)
Max bmep, lb/sq in.....	148.5	154.8	165.8
Compression Ratio.....	8.5	9.25	9.25
IGNITION			
Spark Plug—Factory Eqpt.....	AL AR 42	AL AR 42	AL AR 42
Alternate .....		Champ XJ 12Y	
Spark Plug Gap.....	.035"	.035"	.035"
Firing Order .....		1-8-4-3-6-5-7-2	
Distributor—Make and Model...	AL IBP-4002(1)	AL IBP-4001	AL IBP-4001-A
Breaker Gap .....	.015" to .018"	.015" to .018"	.015" to .018"
Cam Angle .....	29° to 32°	29° to 32°	29° to 32°
Timing—Crankshaft Degrees ...	6° BTC	6° BTC	6° BTC
Adv Deg—Centrif—Vac .....	17-26	20-36-1/2	18-29-1/2
Adv Begins—Ends—Eng rpm....	900-3400	700-3400	700-4600
Battery—Volts, Terminal Ground	12, Negative	12, Negative	12, Negative
VALVES			
Size and Material .....	Int 1.84", Sil F	1.94", Sil F	1.94", Sil F
Exh	1.47", XCR	1.75", 21-4N	1.75", 21-4N
Tappet Clr—Seat Angle.....	Int	Hydraulic Lifters, 45°	Hydraulic Lifters, 45°
Exh			
CARBURETOR			
Make, Model .....	Strom WW3-150	Car BBD-2522S	Car WCFB-2588S
Type .....	Dual DD	Dual DD	DD 4 Barrel
Float Level .....	7/32" (3)	9/32" (4)	Pri 1/8"; Sec 1/4" (5)
Choke Control .....	Automatic	Automatic	Automatic
TRANSMISSION			
Conventional .....	Axle Ratio	Std. 3.91	Std. 3.91
Overdrive .....	Axle Ratio		
Automatic .....	Axle Ratio	Opt. 3.36	Std. 3.36
Make Automatic (see page 30)	PowerFlite (6)	TorqueFlite	TorqueFlite
CAPACITY			
Oil (Refill) .....	(qt) 5	5	5
Water (includes heater) ....	(qt) 21	21	21
Conventional Transmission.....	(pt) 2-3/4	2-3/4	
Auto. Transmission (Refill)....	(qt) 10 (7)	8-1/2	8-1/2
Rear Axle .....	(pt) 3-1/2	3-1/2	3-1/2
Gasoline .....	(gal) 20	23	23

## GENERAL DATA (Four-Door Sedan)

Wheelbase .....	(in) 122	126	126
Over-All Lgth Incl Bumpers.....	(in) 215.8	218	218
Shipping Weight .....	(lb) 3675	3955	4025
Tire Size—Recm Press.....	(lb) 8.00x14-22-22	8.50x14-22-22	8.50x14-22-22

- (1) With special power package 260 bhp @ 4400, 335 lb-ft at 2800. Power package consists of Carter 4 barrel WCFB-2532S carburetor, dual exhaust system and Auto-Lite IBP-4002-B distributor.
- (2) Adventurer model uses special 345 cu. in. engine with two 4 barrel carburetors. Bhp 345 @ 5200 rpm, 355 lb-ft @ 3600 rpm.
- (3) From top of float chamber without gasket to top of float.
- (4) From top of float chamber without gasket to top of float at center.
- (5) Between machined surface of bowl cover and top of float.
- (6) TorqueFlite transmission optional.
- (7) TorqueFlite transmission requires 8-1/2 quarts.

# DODGE

CAR MODEL	Coronet 6	Coronet & Royal V-8	Custom Royal V-8
<b>ENGINE</b>			
No. Cyl-Head Type.....	6-L	V-8-I	V-8-I
Bore and Stroke (in).....	3.25 x 4.63	3.69 x 3.80	3.69 x 3.80
Displacement (cu in).....	230	325	325
AMA Horsepower.....	25.4	43.3	43.3
Max Horsepower @ rpm.....	138 @ 4000	245 @ 4400 (1)	(2) 260 @ 4400 (2)
Max Torque, lb-ft @ rpm.....	208 @ 1600	320 @ 2400 (1)	(2) 320 @ 2400 (2)
Max bmep, lb/sq in.....	136.4	148.5	155.4
Compression Ratio.....	8.0	8.5 (2)	8.5 (2)
<b>IGNITION</b>			
Spark Plug—Factory Eqpt.....	AL AR 51	AL AR 42	AL AR 42
Alternate.....	J-8, R45	Champ	XJ 12Y
Spark Plug Gap.....	.035"	.035"	.035"
Firing Order.....	1-5-3-6-2-4	1-8-4-3-6-5-7-2	
Distributor—Make and Model...	AL IBR-4001	AL IBP-4002	AL IBP-4002-B
Breaker Gap.....	.020"	.015" to .018"	.015" to .018"
Cam Angle.....	39° ± 3°	29° to 32°	29° to 32°
Timing—Crankshaft Degrees ...	TDC	6° BTC	6° BTC
Adv Deg—Centrif—Vac.....	17-19	17-26	16-26
Adv Begins—Ends—Eng rpm....	700-3600	900-3400	700-1700
Battery—Volts, Terminal Ground	12, Negative	12, Negative	12, Negative
<b>VALVES</b>			
Size and Material.....Int	1.53", Sil F	1.84", Sil F	1.84", Sil F
Exh.....	1.41", XCR	1.47", XCR	1.47", XCR
Tappet Ctr—Seat Angle.....Int	.010" H, 45°	Hydraulic Lifters, 45°	Hydraulic Lifters, 45°
Exh.....	.010" H, 45°		
<b>CARBURETOR</b>			
Make, Model.....	Strom WW3-160	Strom WW3-150	Car WCFB-2532S
Type.....	Dual DD	Dual DD	DD 4 Barrel
Float Level.....	7/32" (3)	7/32" (3)	Pri 3/16"; Sec 1/4" (4)
Choke Control.....	Automatic	Automatic	Automatic
<b>TRANSMISSION AXLE RATIO</b>			
Conventional.....	Std. 3.90	Std. 3.73	Std. 3.73
Overdrive.....			
Automatic.....	Opt. 3.73	Opt. 3.54 (5)	Opt. 3.36
Make Automatic (see page 30)	PowerFlite	PowerFlite (5)	TorqueFlite
<b>CAPACITY</b>			
Oil (Refill).....(qt)	5	5	5
Water (includes heater).....(qt)	14	21	21
Conventional Transmission.....(pt)	2-3/4	2-3/4	2-3/4
Auto. Transmission (Refill).....(qt)	10	10 (5)	9
Rear Axle.....(pt)	3-1/4	3-1/2	3-1/2
Gasoline.....(gal)	20	20	20

## GENERAL DATA (Four-Door Sedan)

Wheelbase.....(in)	122	122	122
Over-All Lgth Incl Bumpers.....(in)	212.2	212.2	212.2
Shipping Weight.....(lb)	3470	3620	3690
Tire Size—Recm Press.....(lb)	7.50x14-22-22	7.50x14-24-22(6)	8.00x14-22-22

- (1) Power package engine as used in Custom Royal available as optional equipment.
- (2) D500 engine, 9.25 comp. ratio, 285 bhp @ 4800, 345 lb-ft at 2800 with 4 barrel carburetor or 310 bhp @ 4800 rpm with two 4 barrel carburetors and special camshaft optional.
- (3) From top of float chamber without gasket to top of float.
- (4) Between machined surface of bowl cover and top of float.
- (5) PowerFlite or TorqueFlite transmissions available. Data given for PowerFlite. TorqueFlite data listed under Custom Royal.
- (6) 8.00x14-22-22 standard on Royal.

# FORD

CAR MODEL	All Models Six	Custom V-8 Custom 300 V-8	Fairlane V-8 Fairlane "500" V-8
<b>ENGINE</b>			
No. Cyl-Head Type.....	6-1	V-8-1	V-8-1
Bore and Stroke (in).....	3.62 x 3.60	3.62 x 3.30	3.75 x 3.30
Displacement (cu in).....	223	272	292
AMA Horsepower.....	31.54	42.05	45.0
Max Horsepower @ rpm.....	144 @ 4200	190 @ 4500 (1)	212 @ 4500 (1)
Max Torque, lb-ft @ rpm.....	212 @ 2400	270 @ 2800 (1)	297 @ 2700 (1)
Max bmep, lb/sq in.....	143.4	149.7	153.4
Compression Ratio.....	8.6	8.6 (1)	9.1 (1)
<b>IGNITION</b>			
Spark Plug—Factory Eqpt.....	Champ 870	Champ 870	Champ 870
Alternate .....	85T, BRF 82	85T, BRF 42	84T, BRF 42
Spark Plug Gap.....	.032" to .036"	.032" to .036"	.032" to .036"
Firing Order .....	1-5-3-6-2-4	1-5-4-8-6-3-7-2	1-5-4-8-6-3-7-2
Distributor Make and Model...	Holley FEG 12127 B	Holley FEG	Holley FEG 12127 A
Breaker Gap .....	.024" to .026"	.014" to .016"	.014" to .016"
Cam Angle .....	3.1° to 38°	26° to 28.5°	26° to 28.5°
Timing—Crankshaft Degrees ...	3° BTC (2)	3° BTC (2)	3° BTC (2)
Adv Deg—Centrif—Vac .....	25-1, 4 (3)	34-1, 7-16	34-1, 2-16
Adv Begins—Ends—Eng rpm....	(3)	775-4000	775-4000
Battery—Volts, Terminal Ground	12, Negative	12, Negative	12, Negative
<b>VALVES</b>			
Size and Material .....	Int 1.78", Sll 1	1.925", Sll 1	1.925", Sll 1
Exh .....	1.51", Ford Cast Austenitic		
Tappet Clr—Seat Angle.....	Int .019" H, 45°	.019" H, 45°	.019" H, 45°
Exh .....	.019" H, 45°		
<b>CARBURETOR</b>			
Make, Model .....	Holley	Holley or Ford	Holley or Ford
Type .....	Std DD	Dual DD	Dual DD
Float Level .....	.306" (4)	(5)	(5)
Choke Control .....	Manual	Automatic	Automatic
<b>TRANSMISSION AXLE RATIO</b>			
Conventional .....	Std. 3.70	Std. 3.56	Std. 3.56
Overdrive .....	Opt. 3.89	Opt. 3.70	Opt. 3.70
Automatic .....	Opt. 3.10	Opt. 3.10	Opt. 3.10
Make Automatic (see page 30)	Fordomatic	Fordomatic	Fordomatic
<b>CAPACITY</b>			
Oil (Refill) .....	(qt) 4	5	5
Water (includes heater) ....	16	20	20
Conventional Transmission (pt)	3 (6)	3 (6)	3 (6)
Auto. Transmission (Refill) (qt)	9	9.5	9.5
Rear Axle .....	(pt) 4.5	4.5	4.5
Gasoline .....	(gal) 20	20	20
<b>GENERAL DATA (Four-Door Sedan)</b>			
Wheelbase .....	(in) 116 (7)	116	118
Over-All Lgh Incl Bumpers. (in)	201.7 (7)	201.7	207.7
Shipping Weight .....	(lb) 3226 Custom	3344 Custom	3492 Fairlane
Tire Size—Recm Press.....	(lb) 7.50x14-24-21	7.50x14-24-21	7.50x14-24-21
(1) 312 cu. in., 245 bhp @ 4500 rpm, 332 lb-ft @ 3200 rpm, 9.7 comp. ratio, 4 barrel carburetor engine optional. With two 4 barrel carburetors 270 bhp @ 4800 and with special cam 285 bhp @ 5200.			
(2) 3°BTC with standard or overdrive; 6°BTC with Fordomatic.			
(3) Full vacuum actuated distributor—advance shown is the maximum at wide open throttle, 4000 rpm.			
(4) From roof of float chamber to lowest point on float.			
(5) Holley: 3/4" clearance between bottom of float and floor of float bowl. Ford: .450"-.570" from top of end of float to top of float bowl.			
(6) Capacity with overdrive, 3 pints refill.			
(7) 118" wheelbase, 207.7" over-all for Fairlane and Fairlane "500".			

Brief Passenger Car Data for 1957

January 1, 1957

CAR MODEL Hornet V-8

No. Cyl-Head Type.....	V-8-I
Bore and Stroke (in).....	4 x 3-1/4
Displacement (cu in).....	327
AMA Horsepower.....	51.2
Max Horsepower @ rpm.....	255 @ 4700
Max Torque, lb-ft @ rpm.....	345 @ 2600
Max bmep, lb/sq in.....	159.1
Compression Ratio.....	9.0

Spark Plug—Factory Eqpt.....	AL AL-7J, Champ H-10
Alternate .....	AC 45L
Spark Plug Gap.....	.035"
Firing Order .....	1-8-4-3-6-5-7-2
Distributor—Make and Model...	Delco-Remy 110887
Breaker Gap .....	.016"
Cam Angle .....	26° to 33°
Timing—Crankshaft Degrees ...	5° BTC
Adv Deg—Centrif—Vac .....	36-20
Adv Begins—Ends—Eng rpm.....	600-3800
Battery—Volts, Terminal Ground	12, Negative

Size and Material .....	Int 1.787", S11 1 or XB
	Exh 1.406", 2112N
Tappet Ctr—Seat Angle.....	Int Hydraulic Lifters, 30°
	Exh Hydraulic Lifters, 45°

Make, Model .....	Car WCFB-2593-SA
Type .....	DD 4 Barrel
Float Level .....	Pri 1/8"; Sec 3/16" (1)
Choke Control .....	Automatic

Conventional	Axle Ratio	Std. 4.10
Overdrive	Axle Ratio	Opt. 4.10
Automatic	Axle Ratio	Opt. 3.15
Make Automatic	(see page 30)	Hydra-Matic

Oil (Refill) .....	(qt)	5
Water (includes heater) ....	(qt)	20
Conventional Transmission .....	(pt)	4 (2)
Auto. Transmission (Refill) .....	(qt)	11.5
Rear Axle .....	(pt)	4
Gasoline .....	(gal)	20

Wheelbase .....	(in)	121-1/4
Over-All Lgth Incl Bumpers .....	(in)	209-1/4 (3)
Shipping Weight .....	(lb)	3589
Tire Size—Recm Press .....	(lb)	8.00x14-24-24

- (1) Distance between machined surface of bowl cover and nearest point on float.
- (2) 4 pints with overdrive transmission.
- (3) 219-1/4" over-all with optional Continental tire.



# IMPERIAL

## CAR MODEL Imperial, Imperial Crown, and Imperial LeBaron

### ENGINE

No. Cyl-Head Type.....	V-8-I
Bore and Stroke (in).....	4.00 x 3.90
Displacement (cu in).....	392
AMA Horsepower.....	51.2
Max Horsepower @ rpm.....	325 @ 4600
Max Torque, lb-ft @ rpm.....	430 @ 2800
Max bmep, lb/sq in.....	165.4
Compression Ratio.....	9.25

### IGNITION

Spark Plug—Factory Eqpt.....	AL AGR 42
Alternate .....	Champ XN 12Y, AC R44XLS
Spark Plug Gap.....	.035"
Firing Order .....	1-8-4-3-6-5-7-2
Distributor—Make and Model...	Auto-Lite IBK-4304
Breaker Gap .....	.015" to .018"
Cam Angle .....	29° to 32° per breaker
Timing—Crankshaft Degrees ...	6° BTC
Adv Deg—Centrif—Vac .....	20-22
Adv Begins—Ends—Eng rpm....	700-4500
Battery—Volts, Terminal Ground	12, Negative

### VALVES

Size and Material .....	Int 2.00", Sil F
Exh .....	1.75", 21-4N
Tappet Ctr—Seat Angle.....	Int Hydraulic Lifters, 45°
Exh .....	Hydraulic Lifters, 45°

### CARBURETOR

Make, Model .....	Car WCFCB-2590S
Type .....	DD 4 Barrel
Float Level .....	Pri 1 8"; Sec 1/4" (1)
Choke Control .....	Automatic

### TRANSMISSION

	AXLE RATIO
Conventional .....	Axle Ratio
Overdrive .....	Axle Ratio
Automatic .....	Axle Ratio
Make Automatic .....	Std. 3.18 (2)
(see page 30)	TorqueFlite

### CAPACITY

Oil (Refill) .....	(qt) 5
Water (includes heater) ....	(qt) 25
Conventional Transmission.....	(pt)
Auto. Transmission (Refill)....	(qt) 10-1/2
Rear Axle .....	(pt) 3-1/2
Gasoline .....	(gal) 23

### GENERAL DATA (Four-Door Sedan)

Wheelbase .....	(in) 129.0
Over-All Lgth Incl Bumpers.....	(in) 224.0
Shipping Weight .....	(lb) 4640 (3)
Tire Size—Recm Press.....	(lb) 9.50x14-22-23

- (1) Between machined surface of bowl cover and nearest point on float.  
 (2) 2.92 standard in flat areas of country except on air conditioned cars.  
 (3) Crown Imperial 4740, Imperial LeBaron 4765.

# LINCOLN

CAR MODEL		Capri and Premiere
ENGINE		
No. Cyl-Head Type.....	V-8-I	
Bore and Stroke (in).....	4.00 x 3.66	
Displacement (cu in).....	368	
AMA Horsepower.....	51.20	
Max Horsepower @ rpm.....	300 @ 4800	
Max Torque, lb-ft @ rpm.....	415 @ 3000	
Max bmep, lb/sq in.....	170.0	
Compression Ratio.....	10.0	
IGNITION		
Spark Plug—Factory Eqpt.....	Champ 860	
Alternate .....	AC 84T, AL BRP 42	
Spark Plug Gap.....	.032" to .036"	
Firing Order .....	1-5-4-8-6-3-7-2	
Distributor—Make and Model...	Holley 12127 A	
Breaker Gap .....	.014" to .016"	
Cam Angle .....	26° to 28.5°	
Timing—Crankshaft Degrees ...	5° BTC	
Adv Deg—Centrif—Vac .....	24-3/4-16	
Adv Begins—Ends—Eng rpm....	650-4000	
Battery—Volts, Terminal Ground	12, Negative	
VALVES		
Size and Material .....	Int	2.00", Silchrome #1
	Exh	1.63", Ford Cast Austenitic
Tappet Clr—Seat Angle.....	Int	Hydraulic Lifters, 45°
	Exh	Hydraulic Lifters, 45°
CARBURETOR		
Make, Model .....	Car WCFB-2404S	
Type .....	DD 4 Barrel	
Float Level .....	Primary 1/16", Secondary 3/16" (1)	
Choke Control .....	Automatic	
TRANSMISSION AXLE RATIO		
Conventional .....	Axle Ratio	
Overdrive .....	Axle Ratio	
Automatic .....	Axle Ratio	
Make Automatic (see page 30)	Std. 3.07 (2) Turbo-Drive	
CAPACITY		
Oil (Refill) .....	(qt)	5
Water (includes heater) ....	(qt)	25
Conventional Transmission.....	(pt)	
Auto. Transmission (Refill)....	(qt)	10
Rear Axle .....	(pt)	4
Gasoline .....	(gal)	20
GENERAL DATA (Four-Door Sedan)		
Wheelbase .....	(in)	126
Over-All Lgth Incl Bumpers.....	(in)	224.6
Shipping Weight .....	(lb)	4527
Tire Size—Recm Press.....	(lb)	8.00x15-24-24 (3)
(1) Distance between float and machined surface of bowl cover casting with bowl cover assembly inverted.		
(2) 3.31 axle optional, 3.31 standard on air conditioned cars.		
(3) 8.20x15 standard on air conditioned cars.		

(1) Distance between float and machined surface of bowl cover casting with bowl cover assembly inverted.

(2) 3.31 axle optional. 3.31 standard on air conditioned cars.

(3) 8.20x15 standard on air conditioned cars.

# MERCURY

CAR MODEL	Monterey Montclair 312	Monterey Montclair 368
<b>ENGINE</b>		
No. Cyl-Head Type.....	V-8-I	V-8-I
Bore and Stroke (in).....	3.80 x 3.44	4.00 x 3.66
Displacement (cu in).....	312	368
AMA Horsepower.....	46.21	51.20
Max Horsepower @ rpm.....	255 @ 4600	290 @ 4600
Max Torque, lb-ft @ rpm.....	340 @ 3000	405 @ 2800
Max bmep, lb/sq in.....	161.3	166.0
Compression Ratio.....	9.75	9.75
<b>IGNITION</b>		
Spark Plug—Factory Eqpt.....	Champ 860	Champ 860
Alternate .....		AC 84T, AL BRF 42
Spark Plug Gap.....	.032" to .036"	.032" to .036"
Firing Order .....		1-5-4-8-6-3-7-2
Distributor—Make and Model...	Holley FEK 12127 A	Holley FEL 12127 A
Breaker Gap .....	.014" to .016"	.014" to .016"
Cam Angle .....	26° to 28.5°	26° to 28.5°
Timing—Crankshaft Degrees ...	3° BTC (1)	5° BTC
Adv Deg—Centrif—Vac .....	23-3 4-16	24-3 4-16
Adv Begins—Ends—Eng rpm....	800-4000	650-4000
Battery—Volts, Terminal Ground	12, Negative	12, Negative
<b>VALVES</b>		
Size and Material .....	Int 1.925", Sil 1	2.0", Sil 1
	Exh 1.51", Ford Cast	1.635", Ford Cast
	Austenitic	Austenitic
Tappet Clr—Seat Angle.....	Int .019" H, 45°	Hyd. Lifters, 45°
	Exh .019" H, 45°	Hyd. Lifters, 45°
<b>CARBURETOR</b>		
Make, Model .....	Car AFB or Holley 4150	Car WCFB-2404S
Type .....	DD 4 Barrel	DD 4 Barrel
Float Level .....	(2)	(3)
Choke Control .....	Automatic	Automatic
<b>TRANSMISSION AXLE RATIO</b>		
Conventional .....	Std. 3.70	Std. 3.70
Overdrive .....	Opt. 3.89	Opt. 3.89
Automatic .....	Opt. 2.91	Opt. 2.91
Make Automatic (see page 30)	Merc-O-Matic	Merc-O-Matic
<b>CAPACITY</b>		
Oil (Refill) .....	(qt) 5	5
Water (includes heater) .....	(qt) 21	21
Conventional Transmission.....	(pt) 3-1/4 (4)	3-1/4 (4)
Auto. Transmission (Refill).....	(qt) 10-1/2	10-1/2
Rear Axle .....	(pt) 5	5
Gasoline .....	(gal) 20	20
<b>GENERAL DATA (Four-Door Sedan)</b>		
Wheelbase .....	(in) 122	122
Over-All Lgth Incl Bumpers.....	(in) 211.1	211.1
Shipping Weight .....	(lb) 3969 (5)	4052 (5)
Tire Size—Recm Press.....	(lb) 8 00x14-23-21	8 00x14-23-21

- (1) 3° BTC on all models with std. transmission; 6° BTC with Merc-O-Matic transmissions.
- (2) Carter: 5/32" clearance between top of float and air horn gasket. Holley: 13/16" Primary, 3/4" Secondary. Distance from bottom of float at end to bottom of float bowl.
- (3) Primary 1/16", Secondary 3/16". Distance between machined surface of bowl cover and nearest point on float with bowl cover assembly inverted.
- (4) 4-1/2 pints with overdrive.
- (5) Weight given for standard transmission car.

# NASH

CAR MODEL	Ambassador V-8	Nash-Hudson Metropolitan
<b>ENGINE</b>		
No. Cyl-Head Type.....	V-8-I	4-I
Bore and Stroke (in).....	4 x 3-1/4	2-7/8 x 3-1/2
Displacement (cu in).....	327	90.89
AMA Horsepower.....	51.2	13.22
Max Horsepower @ rpm.....	255 @ 4700	52 @ 4500
Max Torque, lb-ft @ rpm.....	345 @ 2600	77 @ 2500
Max bmep, lb/sq in.....	159.1	127.7
Compression Ratio.....	9.0	7.2
<b>IGNITION</b>		
Spark Plug—Factory Eqpt.....	AL AL-7J, Champ H-10	Champ N8B
Alternate .....	AC 45L	AL AGR 42
Spark Plug Gap.....	.035"	.023" to .025"
Firing Order .....	1-8-4-3-6-5-7-2	1-3-4-2
Distributor—Make and Model...	Delco-Remy 1110887	Lucas DM-2
Breaker Gap .....	.016"	.014" to .016"
Cam Angle .....	26° to 33°	60° — 3°
Timing—Crankshaft Degrees ...	5° BTC	11° BTC
Adv Deg—Centrif—Vac .....	36-20	14-24
Adv Begins—Ends—Eng rpm....	600-3800	1200-3400
Battery—Volts, Terminal Ground	12, Negative	12, Positive
<b>VALVES</b>		
Size and Material .....	Int 1.787", Sil 1	1-3/8", Sil 1
Exh 1.406", 2112N		1-3/16", XB
Tappet Clr—Seat Angle.....	Int Hyd. Lifters, 30°	.015" C, 45°
Exh Hyd. Lifters, 45°		.015" C, 45°
<b>CARBURETOR</b>		
Make, Model .....	Car WCFB-2593-SA	Zenith 30-VIG-10
Type .....	DD 4 Barrel	Sgl DD
Float Level .....	Pri 1/8"; Sec 3/16" (1)	NA
Choke Control .....	Automatic	Manual
<b>TRANSMISSION AXLE RATIO</b>		
Conventional .....	Std. 4.10	Std. 4.22
Overdrive .....	Opt. 4.10	
Automatic .....	Opt. 3.15	
Make Automatic (see page 30)	Hydra-Matic	None
<b>CAPACITY</b>		
Oil (Refill) .....	(qt) 5	4
Water (includes heater) ....	(qt) 20	8
Conventional Transmission.....	(pt) 4 (2)	5.5
Auto. Transmission (Refill)....	(qt) 11.5	
Rear Axle .....	(pt) 4	2
Gasoline .....	(gal) 20	10.5
<b>GENERAL DATA (Four-Door Sedan)</b>		
Wheelbase .....	(in) 121-1/4	85
Over-All Lgth Incl Bumpers.....	(in) 209-1/4 (3)	149-1/2
Shipping Weight .....	(lb) 3597	1835
Tire Size—Reem Press.....	(lb) 8.00 x 14-24-24	5.20x13-24-22

(1) Distance between machined surface of bowl cover and nearest point on float.

(2) 4 pints with overdrive transmission.

(3) 219-1/4" over-all with optional Continental tire.



# OLDSMOBILE

CAR MODEL	'88"	Super '88"	Ninety-Eight
<b>ENGINE</b>			
No. Cyl-Head Type.....	V-8-I	V-8-I	V-8-I
Bore and Stroke (in).....	4 x 3-11/16	4 x 3-11/16	4 x 3-11/16
Displacement (cu in).....	370.7	370.7	370.7
AMA Horsepower.....	51	51	51
Max Horsepower @ rpm.....	277 @ 4400 (1)	277 @ 4400 (1)	277 @ 4400 (1)
Max Torque, lb-ft @ rpm.....	400 @ 2800 (1)	400 @ 2800 (1)	400 @ 2800 (1)
Max bmep, lb/sq in.....	162.7	162.7	162.7
Compression Ratio.....	9.5 (1)	9.5 (1)	9.5 (1)
<b>IGNITION</b>			
Spark Plug—Factory Eqpt.....	AC 44	AC 44	AC 44
Alternate .....		Champ J-8, AL AR 42	
Spark Plug Gap.....	.030"	.030"	.030"
Firing Order .....		1-8-7-3-6-5-4-2	
Distributor—Make and Model...		Delco-Remy 1110883	
Breaker Gap .....	.016"	.016"	.016"
Cam Angle .....	26° to 33°	26° to 33°	26° to 33°
Timing—Crankshaft Degrees ...	5° BTC at 850 rpm with vacuum disconnected		
Adv Deg—Centrif—Vac .....	24-20	24-20	24-20
Adv Begins—Ends—Eng rpm....	625-4400	625-4400	625-4400
Battery—Volts, Terminal Ground	12, Negative	12, Negative	12, Negative
<b>VALVES</b>			
Size and Material .....	Int Exh	1-3/4", SAE 3140 or SAE 8645	
		1-9/16", 21-4N	
Tappet Clr—Seat Angle.....	Int Exh	Hydraulic Lifters, 45°	
		Hydraulic Lifters, 45°	
<b>CARBURETOR</b>			
Make, Model .....	RP 4GC	RP 4GC	RP 4GC
Type .....	DD 4 Barrel	DD 4 Barrel	DD 4 Barrel
Float Level .....	1-5/8" (2)	1-5/8" (2)	1-5/8" (2)
Choke Control .....	Automatic	Automatic	Automatic
<b>TRANSMISSION AXLE RATIO</b>			
Conventional .....	Std. 3.64	Std. 3.64	
Overdrive .....			
Automatic .....	Opt. 3.23	Opt. 3.42	Std. 3.42
Make Automatic (see page 30)	Hydra-Matic	Hydra-Matic	Hydra-Matic
<b>CAPACITY</b>			
Oil (Refill) .....	5	5	5
Water (includes heater) ....	21	21	21
Conventional Transmission (pt)	2.5	2.5	
Auto. Transmission (Refill) (qt)	11	11	11
Rear Axle .....	5	5	5
Gasoline .....	20	20	20
<b>GENERAL DATA (Four-Door Sedan)</b>			
Wheelbase .....	122	122	126
Over-All Lgth Incl Bumpers (in)	208.2	208.2	216.7
Shipping Weight .....	4000	4049	4347
Tire Size—Recm Press.....	8.50x14-22-20	8.50x14-22-20	8.50x14-22-20
	(3)	(3)	(3)

- (1) Power package engine with 10.0 comp. ratio and three 2 barrel carburetors optional. 300 bhp @ 4600 rpm, 415 lb-ft @ 3000 rpm.
- (2) From bowl cover gasket to bottom of float with bowl cover inverted.
- (3) 9.00x14-22-20 tires optional.

## PACKARD

### CAR MODEL

#### ENGINE

No. Cyl-Head Type.....	V-8-I
Bore and Stroke (in).....	3-9/16 x 3-5/8
Displacement (cu in).....	289
AMA Horsepower.....	40.6
Max Horsepower @ rpm.....	275 @ 4800 (1)
Max Torque, lb-ft @ rpm.....	333 @ 3200
Max bmep, lb/sq in.....	173.8
Compression Ratio.....	7.8 supercharged (1)

#### IGNITION

Spark Plug—Factory Eqpt.....	Champ H-10
Alternate .....	AC 45L, AL, ARL 5
Spark Plug Gap.....	.033" to .038"
Firing Order .....	1-2-4-3-6-5-7-2
Distributor—Make and Model...	Delco-Remy 1110864
Breaker Gap .....	.013" to .018"
Cam Angle .....	28° to 34°
Timing—Crankshaft Degrees ...	4° BTC
Adv Deg—Centrif—Vac .....	24-16
Adv Begins—Ends—Eng rpm....	600-2250
Battery—Volts, Terminal Ground	12, Negative

#### VALVES

Size and Material .....	Int 1-21 32", SAE 8645
Exh 1-17 32", SAE 2112N	
Tappet Cir—Seat Angle.....	Int .023" to .025" H. 45°
Exh .023" to .025" H. 45°	

#### CARBURETOR

Make, Model .....	Strom WW6-121
Type .....	Dual DD
Float Level .....	7/32" (2)
Choke Control .....	Automatic

#### TRANSMISSION

AXLE RATIO	
Conventional .....	Axle Ratio
Overdrive .....	Axle Ratio
Automatic .....	Axle Ratio
Make Automatic (see page 30)	Flightomatic

#### CAPACITY

Oil (Refill) .....	(qt) 5
Water (includes heater) ....	(qt) 18.5
Overdrive Transmission ....	(pt) 3.7
Auto. Transmission (Refill) ..	(qt) 9.5
Rear Axle .....	(pt) 3
Gasoline .....	(gal) 18

#### GENERAL DATA (Four-Door Sedan)

Wheelbase .....	(in) 120.5
Over-All Lgth Incl Bumpers. (in)	211.8
Shipping Weight .....	(lb) NA
Tire Size—Recm Press.....	(lb) 7.60x15-24-20

- (1) A single stage supercharger with a variable speed drive is used.  
 (2) Between top of float chamber without gasket to top of float.

# PLYMOUTH

CAR MODEL	Plaza, Savoy and Belvedere 6	Plaza V-8	Savoy and Belvedere V-8
<b>ENGINE</b>			
No. Cyl-Head Type.....	6-L	V-8-I	V-8-I
Bore and Stroke (in).....	3.25 x 4.63	3.75 x 3.13	3.91 x 3.13
Displacement (cu in).....	230	277 (1)	301 (1)
AMA Horsepower.....	25.4	45.0 (1)	48.9
Max Horsepower @ rpm.....	132 @ 3600	197 @ 4400 (1)	215 @ 4400 (1)
Max Torque, lb-ft @ rpm.....	205 @ 1600	270 @ 2400 (1)	285 @ 2800 (1)
Max bmep, lb/sq in.....	134.4	147.0	142.8
Compression Ratio.....	8.0	8.0	8.5
<b>IGNITION</b>			
Spark Plug—Factory Eqpt.....	AL AR 51	AL AR 52	AL AR 52
Alternate.....	Champ J-8, AC R 45	Champ XJ-18Y, AC R 45S	
Spark Plug Gap.....	.035"	.035"	.035"
Firing Order.....	1-5-3-6-2-4	1-8-4-3-6-5-7-2	
Distributor—Make and Model...	AL IBR-4001	AL IBP- 4003-C (1)	AL IBP- 4003 (1)
Breaker Gap.....	.017"	.017"	.017"
Cam Angle.....	29° to 32°	29° to 32°	29° to 32°
Timing—Crankshaft Degrees...	TDC	4° BTC	10° BTC
Adv Deg—Centrif—Vac.....	17-19	30-25	19-26
Adv Begins—Ends—Eng rpm.....	700-3600	700-4300	1000-4400
Battery—Volts, Terminal Ground	12, Negative	12, Negative	12, Negative
<b>VALVES</b>			
Size and Material.....	Int 1.53", Sil P Exh 1.41", XCR		1.64", Sil P 1.58", XCR
Tappet Clr—Seat Angle.....	Int .010" H, 45° Exh .010" H, 45°	.008" H, 45° .018" H, 45°	.008" H, 45° .018" H, 45°
<b>CARBURETOR</b>			
Make, Model.....	Car BBS-2569S	Car BBD-2514S or Strom WW15-23	
Type.....	Sgl DD	Dual DD	Dual DD
Float Level.....	9/32" (2)	9/32" (2)	9/32" (2)
Choke Control.....	Automatic	Automatic	Automatic
<b>TRANSMISSION AXLE RATIO</b>			
Conventional.....	Axle Ratio Std. 3.73	Std. 3.54	Std. 3.54
Overdrive.....	Axle Ratio Opt. 4.10	Opt. 3.91	Opt. 3.91
Automatic.....	Axle Ratio Opt. 3.73	Opt. 3.54	Opt. 3.54 (3)
Make Automatic (see page 30)	PowerFlite	PowerFlite	PowerFlite (3)
<b>CAPACITY</b>			
Oil (Refill).....(qt)	5	5	5
Water (includes heater)....(qt)	14	21	21
Conventional Transmission.(pt)	2-3/4 (4)	2-3/4 (4)	2-3/4 (4)
Auto. Transmission (Refill) ..(qt)	10	10	10 (5)
Rear Axle.....(pt)	3-1/4	3-1/2	3-1/2
Gasoline.....(gal)	20	20	20
<b>GENERAL DATA (Four-Door Sedan)</b>			
Wheelbase.....(in)	118	118	118
Over-All Lgth Incl Bumpers.(in)	204.6	204.6	204.6
Shipping Weight.....(lb)	3265	3403	3415
Tire Size—Recm Press.....(lb)	7.50x14-22-22	7.50x14-24-22	7.50x14-24-22
(1) With power package consisting of 4 barrel Carter WCFB-2530S carburetor, dual exhaust and special Auto-Lite IBP-4003-A distributor, 235 bhp @ 4400, 305 lb-ft at 2800. Fury model uses 318 cu. in. engine, 9.25 comp. ratio, 290 bhp @ 5200, 325 lb-ft @ 3600.			
(2) From top of float bowl without gasket to top of float.			
(3) 3.36 standard with optional TorqueFlite transmission.			
(4) 3/4 pint additional with overdrive.			
(5) 9 quarts refill with optional TorqueFlite transmission.			

# PONTIAC

CAR MODEL	Chieftain	Super Chief	Star Chief
<b>ENGINE</b>			
No. Cyl-Head Type.....	V-8-I	V-8-I	V-8-I
Bore and Stroke (in).....	3.94 x 3.56	3.94 x 3.56	3.94 x 3.56
Displacement (cu in).....	347	347	347
AMA Horsepower.....	49.6	49.6	49.6
Max Horsepower @ rpm.....	252 @ 4600 (1)	270 @ 4800 (1)	270 @ 4800 (1)
Max Torque, lb-ft @ rpm.....	354 @ 2400 (1)	359 @ 2800 (1)	359 @ 2800 (1)
Max bmep, lb/sq in.....	153.8	156.0	156.0
Compression Ratio.....	10.0 (1)	10.0 (1)	10.0 (1)
<b>IGNITION</b>			
Spark Plug—Factory Eqpt.....	AC 45	AC 45	AC 45
Alternate.....		AL AR 52, Champ	J-8
Spark Plug Gap.....	.033" to .038"	.033" to .038"	.033" to .038"
Firing Order.....		1-8-4-3-6-5-7-2	
Distributor—Make and Model...		Delco-Remy 1110871	
Breaker Gap.....	.016"	.016"	.016"
Cam Angle.....	28° to 32°	28° to 32°	28° to 32°
Timing—Crankshaft Degrees...	6° BTC	6° BTC	6° BTC
Adv Deg—Centrif—Vac.....	26-22	26-22	26-22
Adv Begins—Ends—Eng rpm....	650-4250	650-4250	650-4250
Battery—Volts, Terminal Ground	12, Negative	12, Negative	12, Negative
<b>VALVES</b>			
Size and Material.....	Int 1.88", GM 8440 Aluminum Treated		
	Exh 1.60", MXCR Aluminum Treated		
Tappet Clr—Seat Angle.....	Int Hydraulic Lifters, 30°		
	Exh Hydraulic Lifters, 45°		
<b>CARBURETOR</b>			
Make, Model.....	RP 7009831	RP 7009830 or	Car AFB-2506S
Type.....	Dual DD	DD 4 Barrel	DD 4 Barrel
Float Level.....	1-15/64" (2)	(3)	(3)
Choke Control.....	Automatic	Automatic	Automatic
<b>TRANSMISSION</b>			
Conventional.....	Axle Ratio Std. 3.42 (4)	Std. 3.42 (4)	Std. 3.42 (4)
Overdrive.....	Axle Ratio		
Automatic.....	Axle Ratio Opt. 3.23 (5)	Opt. 3.23 (5)	Opt. 3.23 (5)
Make Automatic.....	(see page 30) Hydra-Matic	Hydra-Matic	Hydra-Matic
<b>CAPACITY</b>			
Oil (Refill).....(qt)	5	5	5
Water (includes heater)....(qt)	23	23	23
Conventional Transmission.....(pt)	2.5	2.5	2.5
Auto. Transmission (Refill).....(qt)	9	9	9
Rear Axle.....(pt)	5	5	5
Gasoline.....(gal)	20	20	20
<b>GENERAL DATA (Four-Door Sedan)</b>			
Wheelbase.....(in)	122.0	122.0	124.0
Over-All Lgth Incl Bumpers.....(in)	206.8	206.8	213.8
Shipping Weight.....(lb)	3670 (6)	3695 (6)	3740 (6)
Tire Size—Reom Press.....(lb)	7.50x14-22-23 (7)	8.00x14-22-22 (7)	

- (1) Power data is given for 10.0 comp. ratio engine which is equipped with Hydra-Matic transmission. An optional comp. ratio of 8.5 is available with synchromesh transmission. BHP 227 @ 4600 for Chieftain, 244 @ 4800 for Super Chief and Star Chief with synchromesh transmission engine.
- (2) From bottom of float to bowl cover gasket with bowl cover inverted.
- (3) Rochester: 1-3/8" between bottom of float and bowl cover gasket.  
Carter: Not available.
- (4) 3.64 axle ratio optional.
- (5) 3.08 axle ratio optional.
- (6) Shipping weight includes Hydra-Matic transmission.
- (7) 8.00x14-22-22 and 8.50x14-22-22 optional on Chieftain; 8.50x14-22-22 optional on Super Chief and Star Chief.



# RAMBLER

CAR MODEL	Rambler 6	Rambler V-8
<b>ENGINE</b>		
No. Cyl-Head Type.....	6-I	V-8-I
Bore and Stroke (in).....	3-1/8 x 4-1/4	3-1/2 x 3-1/4
Displacement (cu in).....	195.6	250
AMA Horsepower.....	23.44	39.2
Max Horsepower @ rpm.....	125 @ 4200 (1)	190 @ 4900 (2)
Max Torque, lb-ft @ rpm.....	175 @ 1600 (1)	240 @ 2500 (2)
Max bmep, lb/sq in.....	134.9	144.8
Compression Ratio.....	8.25	8.0 (2)
<b>IGNITION</b>		
Spark Plug—Factory Eqpt.....	AL AL-7J, Champ H-10	AL AL-7J, Champ H-10
Alternate.....	AC 45L	AC 45L
Spark Plug Gap.....	.035"	.035"
Firing Order.....	1-5-3-6-2-4	1-8-4-3-6-5-7-2
Distributor—Make and Model...	DR 1110244	DR 1110884
Breaker Gap.....	.016"	.016"
Cam Angle.....	28° to 35°	26° to 33°
Timing—Crankshaft Degrees...	TDC	5° BTC
Adv Deg—Centrif—Vac.....	26-15	38-24
Adv Begins—Ends—Eng rpm....	700-3400	650-3400
Battery—Volts, Terminal Ground	12, Negative	12, Negative
<b>VALVES</b>		
Size and Material.....Int	1.594", Sil 1 or XB	1.787", Sil 1 or XB
Exh.....	1.343", 2112N	1.406", 2112N
Tappet Ctr—Seat Angle.....Int	.012" H, 45°	.012" H, 30°
Exh.....	.016" H, 45°	.014" H, 45°
<b>CARBURETOR</b>		
Make, Model.....	Car AS-2580-S (1)	Car WGD-2352-SA
Type.....	Sgl DD (1)	Dual DD
Float Level.....	1/4" (3)	7/32" (3)
Choke Control.....	Automatic	Automatic
<b>TRANSMISSION</b>		
Conventional.....	Std. 3.77 (4)	Std. 4.1 (4)
Overdrive.....	Opt. 4.4 (4)	Opt. 4.4 (4)
Automatic.....	Opt. 3.31	Opt. 3.54
Make Automatic (see page 30)	Dual Range Hydra-Matic	Hydra-Matic
<b>CAPACITY</b>		
Oil (Refill).....(qt)	4	5
Water (includes heater)....(qt)	11	21
Conventional Transmission.....(pt)	2.25 (5)	4 (5)
Auto. Transmission (Refill).....(qt)	8.5	11.5
Rear Axle.....(pt)	3	4
Gasoline.....(gal)	20	20
<b>GENERAL DATA (Four-Door Sedan)</b>		
Wheelbase.....(in)	108	108
Over-All Lgth Incl Bumpers.....(in)	191.1 (6)	191.1 (6)
Shipping Weight.....(lb)	2891	3179
Tire Size—Recm Press.....(lb)	6.40x15-24-24 (7)	6.70x15-24-24
(1) 135 bhp @ 4500 rpm, 180 lb-ft @ 1800 rpm with optional Carter WCD-2350S DD carburetor.		
(2) 327 cu. in. 9.5 comp. ratio V-8 engine used in Rebel. 255 bhp @ 4700 rpm with 4 barrel carburetor. 288 bhp with Bendix fuel injection.		
(3) Distance between top of float and machined surface of bowl cover.		
(4) 4.4 ratio optional with conventional transmission and 4.1 optional with overdrive.		
(5) 3-1/2 pints with overdrive on 6, 4 pints on V-8.		
(6) 198.9 with optional Continental tire.		
(7) 6.70x15 tires optional.		

# STUDEBAKER

CAR MODEL	Champion	Commander	President & Classic
<b>ENGINE</b>			
No. Cyl-Head Type.....	6-L	V-8-I	V-8-I
Bore and Stroke (in).....	3 x 4-3/8	3-9/16 x 3-1/4	3-9/16 x 3-5/8
Displacement (cu in).....	185.6	259.2	289
AMA Horsepower.....	21.6	40.6	40.6
Max Horsepower @ rpm.....	101 @ 4000	180 @ 4500 (1)	210 @ 4500 (2)
Max Torque, lb-ft @ rpm.....	152 @ 1800	260 @ 2800 (1)	300 @ 2800 (2)
Max bmep, lb/sq in.....	123.5	151.3	156.5
Compression Ratio.....	7.8	8.3	8.3
<b>IGNITION</b>			
Spark Plug—Factory Eqpt.....	Champ J-7	Champ H-11	Champ H-11
Alternate.....	AC 44, AL AR 5	AC 45L, AL ARL 82	
Spark Plug Gap.....	.028" to .033"	.033" to .038"	.033" to .038"
Firing Order.....	1-5-3-6-2-4	1-8-4-3-6-5-7-2	
Distributor—Make and Model...	AL IAT-4201	DR 1110864	
Breaker Gap.....	.020"	.013" to .018"	.013" to .018"
Cam Angle.....	36° to 40°	28° to 34°	28° to 34°
Timing—Crankshaft Degrees ...	2° BTC	4° BTC	4° BTC
Adv Deg—Centrif—Vac.....	14-18	24-16	24-16
Adv Begins—Ends Eng rpm....	800-2800	600-2250	600-2250
Battery—Volts, Terminal Ground	12, Negative	12, Negative	12, Negative
<b>VALVES</b>			
Size and Material.....	Int 1-11 32", CNS Exh 1-9 32", 2112	1-21/32", SAE 8645 1-17/32", 2112N	
Tappet Ctr—Seat Angle.....	Int .016" C, 45° Exh .016" C, 45°	.026" C or .024" H, 45° .026" C or .024" H, 45°	
<b>CARBURETOR</b>			
Make, Model.....	Car WE-2417S	Strom WW6-117	Strom WW6-117A
Type.....	Sgl DD	Dual DD	Dual DD
Float Level.....	3/8" (3)	3/16" (4)	3/16" (4)
Choke Control.....	Automatic	Automatic	Automatic
<b>TRANSMISSION AXLE RATIO</b>			
Conventional.....	Std. 4.10	Std. 3.54	Std. 3.54
Overdrive.....	Opt. 4.56	Opt. 3.92	Opt. 3.92 (5)
Automatic.....	Opt. 3.54	Opt. 3.31	Opt. 3.31
Make Automatic (see page 30)	Flightomatic	Flightomatic	Flightomatic
<b>CAPACITY</b>			
Oil (Refill).....(qt)	5	5	5
Water (Includes heater).....(qt)	12.5	18.5	18.5
Conventional Transmission.....(pt)	1.6 (6)	2.4 (6)	2.4 (6)
Auto. Transmission (Refill).....(qt)	9	9	9
Rear Axle.....(pt)	2.5	3	3
Gasoline.....(gal)	18	18	18
<b>GENERAL DATA (Four-Door Sedan)</b>			
Wheelbase.....(in)	116-1/2 (7)	116-1/2 (7)	116-1/2 (7)
Over-All Lgth Incl Bumpers.....(in)	202-3/8 (8)	202-3/8 (8)	200-3/4 (8)
Shipping Weight.....(lb)	2810	3140	3205
Tire Size—Recm Press.....(lb)	6.40x15-24-20	6.70x15-24-22	6.70x15-24-20
(1) 195 bhp @ 4500 rpm, 265 lb-ft @ 2800 rpm with four-barrel carburetor.			
(2) 225 bhp @ 4500 rpm, 305 lb-ft @ 3000 rpm standard on Classic and Silver Hawk models and optional on others. 275 bhp @ 4800 rpm, 333 lb-ft @ 3200 rpm with supercharger and 7.8 comp. ratio on Golden Hawk.			
(3) Between boss on bowl cover and far edge of float seam.			
(4) Between top of float chamber without gasket to top of float.			
(5) 4.09 axle ratio used on Classic.			
(6) 2.75 with overdrive on Champion, 3.4 on V-8's.			
(7) Classic four-door sedan and coupes 120-1/2.			
(8) 203-15/16" over-all length of coupes. Classic 206-3/8".			

# APPROXIMATE ANALYSIS OF VALVE, VALVE FACING AND SEAT INSERT MATERIALS IN GENERAL USE

EXHAUST VALVE STEELS										INTAKE VALVE STEELS									
ELEMENT	1		2		3		4		FORD (FPA)	5		6		7		8		9	
	SIL 1	SILXB	XCR	BOB	2112 <sup>1</sup>	SILMO	SILX-142 <sup>2</sup>	CAST		81-412 <sup>3</sup>	2155	SILF	SAE V-STEEL	SAE 3140	SAE 3147	SAE 6150	SAE <sup>4</sup> 6140	SAE <sup>5</sup> 9442	%
CHROMIUM (CR)	6.5	210	237	236	210	190	140	150	197	210	210	2.5	07	11	10	—	0.5	0.4	
NICKEL (NI)	—	15	47	37	120	90	140	150	22	37	50	—	13	—	—	—	0.6	0.5	
CARBON (C)	0.45	0.75	0.45	0.39	0.25	0.19	0.45	100	0.60	0.60	0.20	0.40	0.40	0.40	0.50	0.46	0.46	0.43	
SILICON (SI)	3.2	20	10MAX	0.8	0.6	2.6	0.6	3.5	35MAX	0.5MAX	0.4	4.0	0.3	0.3	0.3	0.3	0.3	0.3	
MANGANESE (MN)	—	0.4	10MAX	37	14	10	10	0.8	60	90	55	0.4	0.8	0.9	0.8	0.9	0.9	1.2	
MOLYBDENUM (MO)	—	—	27	13	—	—	0.5MAX	0.4	—	—	—	—	—	—	—	—	0.2	0.1	
TUNGSTEN (W)	—	—	—	—	—	—	2.5	—	—	—	—	—	—	—	—	—	—	—	
OTHER	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
IRON (FE)	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL	BAL	

FACING MATERIALS										SEAT INSERT MATERIALS									
ELEMENT	1		2		3		4		X-782 <sup>1</sup> (BUSHING)	5		6		7		8		9	
	STELLITE	NO 6	STELLITE	NO 6	STELLITE	NO 6	STELLITE	NO 6		STELLITE	NO 6	STELLITE	NO 6	STELLITE	NO 6	STELLITE	NO 6	STELLITE	NO 6
CHROMIUM (CR)	270	240	290	260	200	200	270	290	390	270	290	270	290	270	290	270	290	270	290
NICKEL (NI)	—	240	390	390	BAL	BAL	—	—	—	—	—	—	—	—	—	—	—	—	—
CARBON (C)	125	160	240	200	070	070	125	240	240	125	240	125	240	125	240	125	240	125	240
SILICON (SI)	27	13	10MAX	0.4	0.3 MAX	0.3 MAX	27	10MAX	10MAX	27	10MAX	27	10MAX	27	10MAX	27	10MAX	27	10MAX
MANGANESE (MN)	—	0.3	—	0.5MAX	0.8	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—
MOLYBDENUM (MO)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TUNGSTEN (W)	40	125	150	90	—	—	40	150	150	40	150	40	150	40	150	40	150	40	150
CORAL	630	370	100	10MAX	—	—	630	100	100	630	100	630	100	630	100	630	100	630	100
OTHER	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
IRON (FE)	70	07	80MAX	40MAX	10MAX	10MAX	—	—	—	20	80MAX	—	—	—	—	—	—	—	—

NOTES: 1 FERRITIC OR MARTENSITIC (MAGNETIC)

2 SIGMA PHASE (SLIGHTLY MAGNETIC)

3 SAUSTENITIC (NON MAGNETIC)

4 NON FERROUS ALLOY (NON MAGNETIC)

5 CAST IRON (MAGNETIC)

6 2112N HAS SAME COMPOSITION WITH 010 TO 020% NITROGEN

7 2112N HAS SAME COMPOSITION WITH 010 TO 020% NITROGEN

8 2112N HAS SAME COMPOSITION WITH 010 TO 020% NITROGEN

9 2112N HAS SAME COMPOSITION WITH 010 TO 020% NITROGEN

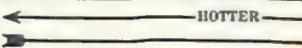
10 2112N HAS SAME COMPOSITION WITH 010 TO 020% NITROGEN

11 2112N HAS SAME COMPOSITION WITH 010 TO 020% NITROGEN

12 2112N HAS SAME COMPOSITION WITH 010 TO 020% NITROGEN

13 2112N HAS SAME COMPOSITION WITH 010 TO 020% NITROGEN

# SPARK PLUG HEAT

					
AC	10 mm 1/4" Reach	M-8			
	14 mm 3/8" Reach	48 48X	46-5 46 R46	45 R45 R45S*	44-5
	14 mm 1/2" Reach	47L		45L	
	14 mm 3/4" Reach	46XL		45XL R45XL	R45XLS*
	18 mm 60° Seat	85T R85T			
	18 mm Std.	88	86T 86		
CHAM- PION	10 mm 1/4" Reach	Y-8		Y-6	
	14 mm 3/8" Reach	J-14	J-12	J-11	J-8 J-18Y*
	14 mm 1/2" Reach	H-12		H-11	H-10
	14 mm 3/4" Reach	N-18			
	18 mm 60° Seat	870			
	18 mm Std.	10 Com	D-21 9	8 Com	7
AUTO- LITE	10 mm 1/4" Reach	P6 PR6			
	14 mm 3/8" Reach	A11	AR10 AT10	A9 ARS0 ARS AR82*	A7
	14 mm 1/2" Reach	AL11	AL9	ARL8 ARL82*	AL7
	14 mm 3/4" Reach	4GS125		4GS150 AGR82*	
	18 mm 60° Seat	BRF7 BRF82*			
	18 mm Std.	BT10 BR10	BT9	BT8 BR8	

\*Plugs with extended gap design

# RANGE COMPARISONS

← COLDER →					
104				10 mm 1/4" Reach	AC
44 R44	43-5 43-5R	43 R43	42	14 mm 3/8" Reach	
43L				14 mm 1/2" Reach	
R44XLS*				14 mm 3/4" Reach	
84T				18 mm 60" Seat	
				18 mm Std.	
Y-4A				10 mm 1/4" Reach	CHAM- PION
J-7 XJ12Y* J-8 J-5 J-2				14 mm 3/8" Reach	
H-9 H-8				14 mm 1/2" Reach	
N-8 N-8B N-16Y* N-5 NA-8 XN12Y* N-3 NA-10				14 mm 3/4" Reach	
860 F-10				18 mm 60" Seat	
6 Com D-10 5 Com 4 Com				18 mm Std.	
P4 PR4				10 mm 1/4" Reach	AUTO- LITE
AT6 AR51 AR5 AR52* A5 AR41 AT1 AR42* A3 AR32*				14 mm 3/8" Reach	
ALS				14 mm 1/2" Reach	
AGR51 AG5 AGR52* AGR41 AGR31 AGR42* AGR32*				14 mm 3/4" Reach	
BTF6 BTF42* BTF3				18 mm 60" Seat	
BT6 BT4 BR4 BT3				18 mm Std.	



## AUTOMATIC AND SEMI-AUTOMATIC TRANSMISSIONS

### Dynaflow (Buick)

The Dynaflow transmission consists of a five-element torque converter and a multiple pinion planetary gearset providing low and reverse ratios. The two turbine elements of the converter are interconnected through a planetary gearset of 1.6:1 ratio. The stator vanes are pivoted in the vane carrier and their pitch is controlled by a hydraulic piston in response to accelerator position. The maximum torque multiplication of the converter is 3.5 in the high stator pitch and 3.1 in the low pitch position. No additional gearing, other than the internal gearing between the turbines, is used for normal forward driving. The drive is always through the converter. Low range 1.82:1 gear ratio can be manually engaged at any throttle position for extra pulling power and engine braking.

### Flightomatic (Studebaker-Packard Corporation)

This transmission is used on Studebaker and Packard automobiles and is composed of a three-element torque converter and a multiple pinion compound planetary gearset to produce three forward speeds and reverse. The drive is always through the converter which has a maximum torque multiplication of 2.15:1. Normal drive starts through the torque converter and low gear ratio (2.40:1), shifts to torque converter plus intermediate ratio (1.47:1) and then shifts to converter only. The shifts are automatic and vary with car speed and accelerator position. The transmission can be manually locked in low range for added pulling power and engine braking.

### Fordomatic, Merc-O-Matic and Turbo-Drive (Ford, Mercury, Lincoln and Continental)

This transmission is composed of a three-element torque converter and a multiple pinion planetary gear system to produce three forward speeds and reverse. The drive is always through the converter which has a maximum torque multiplication of 2.1:1. Normal drive starts through the torque converter and intermediate gear ratio (1.47:1) and automatically shifts to converter only, depending on throttle opening and car speed. Low gear (2.40:1 gear ratio) can be engaged for added acceleration from a standstill or from low vehicle speeds by depressing the accelerator to the floor. The transmission may be manually locked in low range for added pulling power or engine braking.

### Hydra-Matic (Detroit Transmission Division GMC)

The Dual-Range Hydra-Matic is available on Rambler 6. This transmission consists of a fluid coupling with three planetary gearsets providing four forward speeds and reverse. The shifts are automatic and vary with car speed and accelerator position. Ratios are as follows: first, 3.82:1; second, 2.63:1; third, 1.45:1; fourth, 1:1.

The Hydra-Matic with two fluid couplings is available on Cadillac, Hudson, Nash, Oldsmobile, Pontiac and Rambler V-8. This transmission consists of two fluid couplings and three planetary gearsets providing four forward speeds and reverse. The large fluid coupling is used for the transmission of power as in the original Hydra-Matic. The small fluid coupling replaces the clutch unit in the forward planetary gearset and the front and rear bands have been replaced by sprag type clutches. The shifts are automatic and vary with car speed and accelerator position. Ratios are as follows: first, 3.97:1; second, 2.55:1; third, 1.55:1; fourth, 1:1.

### Overdrive (Borg Warner Corporation)

Available on Chevrolet, Ford, Hudson, Mercury, Nash, Packard, Plymouth, Rambler and Studebaker. It consists of a planetary gearset and one-way clutch used behind a conventional three-speed transmission. The shift is controlled electrically according to car speed and is actuated by the accelerator. The driving ratio reduction is approximately 30%.

### PowerFlite (Chrysler Corporation)

This transmission is used on DeSoto, Dodge and Plymouth in both V-8 and six-cylinder cars. It consists of a three-element torque converter and two planetary gearsets providing low and reverse ratios. The drive is always through the converter which has a maximum torque multiplication of 2.7:1. Normal drive starts through the torque converter and low gear ratio (1.72:1) and automatically shifts to converter only, depending on throttle opening and car speed. The transmission can be manually locked in low range for extra pulling power and engine braking.

### Powerglide (Chevrolet)

This transmission consists of a three-element torque converter with a multiple pinion planetary gearset providing low and reverse ratios. The drive is always through the converter which has a maximum torque multiplication of 2.1:1. Normal drive starts through the torque converter and low gear ratio (1.82:1) and automatically shifts to converter only, depending on throttle opening and car speed. The transmission can be manually locked in low range for extra pulling power and engine braking.

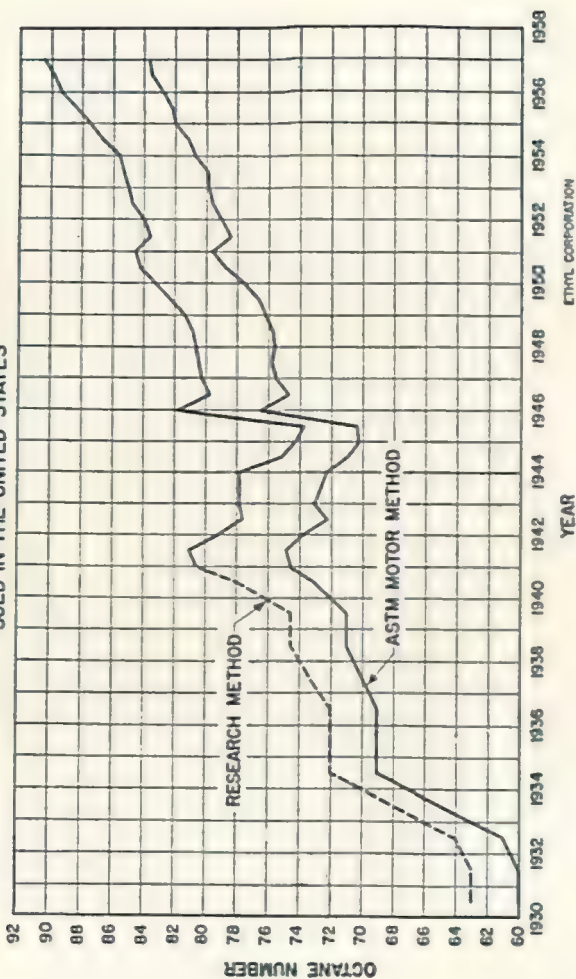
### TorqueFlite (Chrysler Corporation)

This transmission is used on Chrysler, DeSoto, Dodge, Imperial and Plymouth. It consists of a three-element torque converter and two planetary gearsets providing three forward speeds and reverse. The drive is always through the converter which has a maximum torque multiplication of 2.3 to 2.7, depending on the blade angle of the particular converter used. Normal drive starts through the converter and low gear ratio (2.45:1), shifts to torque converter plus intermediate ratio (1.45:1) and then shifts to converter only. The shifts are automatic and vary with car speed and accelerator position. The transmission may be manually locked in low or intermediate gear for added pulling power or engine braking.

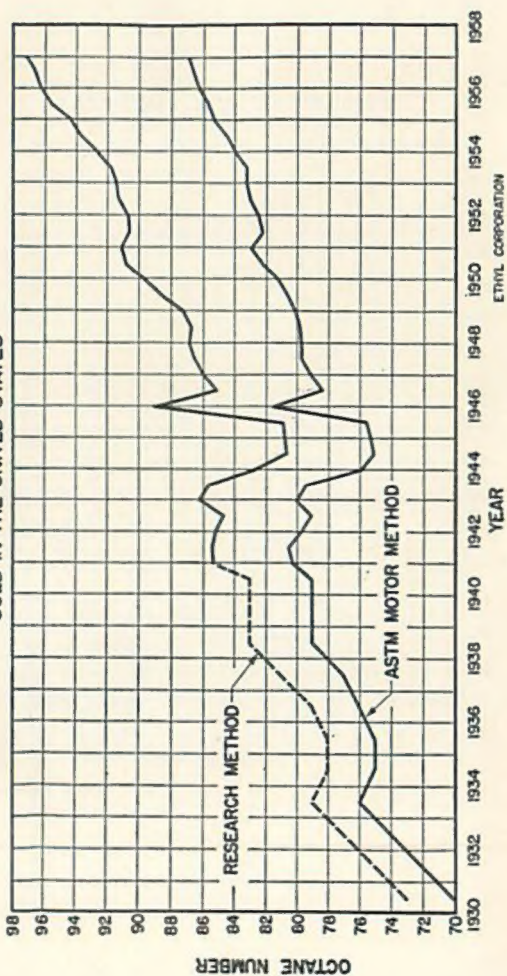
### Turboglide (Chevrolet)

This transmission consists of a five-element torque converter consisting of three turbines, a variable pitch stator and a conventional torque converter pump. The three turbines are connected individually to the output shaft through the elements of two simple planetary gearsets. The stator vanes are pivoted in the vane carrier and their pitch is controlled by a hydraulic piston in response to accelerator position. The maximum torque multiplication of the converter is 4.3:1 in the high stator pitch position and 3.8 in the low position. No additional gearing other than the internal gearing between the turbines and the output shaft is provided. A hydraulic retarder is used for downhill braking.

# TREND IN ANTIKNOCK QUALITY OF REGULAR GASOLINES SOLD IN THE UNITED STATES

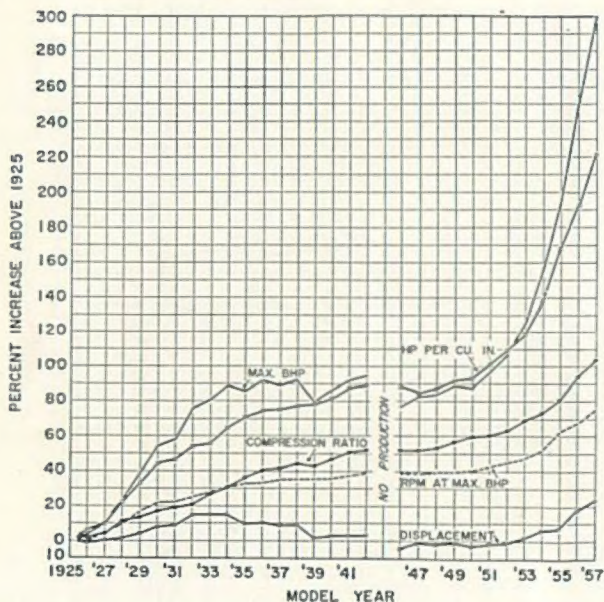


# TREND IN ANTIKNOCK QUALITY OF PREMIUM GASOLINES SOLD IN THE UNITED STATES





**TRENDS OF AMERICAN PASSENGER  
CAR ENGINE DESIGN SINCE 1925**  
AVERAGES OF VALUES LISTED IN TRADE PUBLICATIONS



ETHYL CORPORATION



